

## INFORMATION SHEET

ORDER NO. R5-2007-xxxx  
GRANITE CONSTRUCTION COMPANY  
SACRAMENTO COUNTY



### Background

The Granite Construction Company (Granite) has proposed to operate an aggregate mining facility on a portion of the Inactive Rancho Cordova Test Site (IRCTS). The IRCTS is currently owned by Aerojet and consists of approximately 4000 acres in eastern Sacramento County to the east of Sunrise Boulevard, south of White Rock Road, and north of Douglas Road. Past rocket testing operations and disposal practices by The McDonnell-Douglas Corporation and/or Aerojet, have caused the groundwater beneath the IRCTS to have become polluted with volatile organic contaminants (VOCs) and perchlorate. The groundwater upgradient of the mining operation is also polluted by the Aerojet Superfund Site and the former White Rock Road North Dump.

Granite's mining operation consists of mining and processing of tailings that were created by previous gold dredge mining operations. The tailings consist of cobbles intermixed with sand and gravel, and minor amounts of silt and clay. The tailings piles vary from 5 to 75 feet in height with typical base widths of 100 to 300 feet. The mined material will be processed by a portable crushing and screening plant that will work its way across the site as the mining progresses. No washing of material or water usage for processing purposes will occur. The only use of water on the site will be for dust control.

The mining operation will remove and process the tailings mounds and will result in returning the ground elevation to that prior to the gold dredging operations. The mined area will then proceed towards residential and commercial development as part of the proposed Rio Del Oro development that is in the advanced planning stage.

Granite will be using a water supply well in the mining area. The well has served to provide water for McDonnell-Douglas' rocket testing operations and also for ranching activities in the immediate vicinity. The water supply well has detectable concentrations of the VOCs trichloroethylene (TCE) and tetrachloroethylene (PCE) at 8.1 micrograms per liter (ug/L) and 1.1 ug/L, respectively. Perchlorate has not been found in the well, but can be found several thousand feet upgradient. Aerojet and McDonnell-Douglas are in the process of providing containment and cleanup of the groundwater pollution both on the IRCTS and upgradient of the water supply well. The containment and cleanup systems will be constructed over the next few years and will operate for many decades.

Granite's operation will utilize the well to supply the water needed for dust control following treatment, as described below. The well will supply up to 100 gallons per minute to the treatment system for up to 20 hours per day, 5 days per week. The treated water will be stored in a 10,000 gallon overhead water tank. Water will be transferred from the tanks to a water truck and sprayed around the site for dust control, as needed. Processed materials will be loaded onto trucks and weighed at an on-site scale house.

## **Wellhead Treatment Facilities**

The treatment system to be used by Granite consists of GAC vessels, each containing 2000 pounds of granular activated carbon (GAC). The GAC vessels are operated in series. GAC has been demonstrated to cost-effectively remove TCE (Primary Drinking Water Standard of 5 µg/L, Public Health Goal of 0.8 ug/L) and PCE (Primary Drinking Water Standard of 5 ug/L, Public Health Goal of 0.08 ug/L) to below 0.5 ug/L. When concentrations of TCE or PCE in the effluent of the lead vessel equal concentrations in the influent to the lead vessels, the lead and lag vessels will be switched and the GAC replaced in the former lead vessel. The spent carbon is transported to a permitted facility for reactivation and destruction of the adsorbed VOCs. Bag filters may be used in front of the GAC vessels to remove particulates, thereby reducing the potential for clogging and extending the life of the GAC.

Upgradient of the plume affecting the water supply well is perchlorate. If needed, treatment for removal of perchlorate will be added to the water supply well in the future. The treatment system for perchlorate is nearly identical to that provided for removal of VOCs except that the vessels are filled with an ion-exchange resin specifically designed to remove perchlorate. As with GAC, as the lead bed becomes saturated, the lead and lag vessels are switched and fresh resin is added to the former lead vessel.

## **Basin Plan, Beneficial Uses, and Regulatory Considerations**

Surface water drainage from the GWTF is to Morrison Creek. The *Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Fourth Edition* (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. Beneficial uses often determine the water quality objectives that apply to a water body. For example, waters designated as municipal and domestic supply must meet the maximum contaminant levels (MCLs) for drinking waters. The Basin Plan sets forth the applicable beneficial uses (industrial, agricultural, and domestic supply in this instance) of groundwater, procedure for application of water quality objectives, and the process for and factors to consider in allocating waste assimilation capacity.

## **Antidegradation**

The antidegradation directives of Water Code section 13000 require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not for others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality Waters in California," or "Antidegradation" Policy).

Resolution No. 68-16 is applied on a case-by-case, constituent-by-constituent basis in determining whether a certain degree of degradation can be justified. It is incumbent upon the Discharger to provide technical information for the Regional Board's evaluation. This technical information must fully characterize:

- All waste constituents to be discharged;
- The background quality of the uppermost layer of the uppermost aquifer;
- The background quality of other waters that may be affected;
- The underlying hydrogeologic conditions;
- Waste treatment and control measures;
- How treatment and control measures are justified as best practicable treatment and control;
- The extent the discharge will impact the quality of each aquifer; and
- The expected degradation to water quality objectives.

In allowing a discharge, the Regional Board must comply with Water Code 13263 in setting appropriate conditions. The Regional Board is required, relative to the groundwater that may be affected by the discharge, to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Regional Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (Water Code section 13263, subdivision (b)) and must consider other waste discharges and factors that affect that capacity.

As stated above, groundwater will be extracted, treated to remove VOCs and discharged to land. Any water that might be returned to the aquifer, though extremely unlikely, will be as good a quality, if not better, than the background groundwater at the site. No degradation should occur as a result of the discharge.

## **Title 27**

Title 27, CCR, section 20005 et seq. ("Title 27"), contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent is acceptable. The proposed discharge will not degrade groundwater quality.

## **Proposed Order Terms and Conditions**

### **Discharge Prohibitions and Specifications**

The proposed Order establishes discharge flow limits of 100 gpm and XXXXX gallons per day for the water supply well. The proposed Order's discharge specifications for VOCs and perchlorate are based on the treatment technologies employed and to maintain all beneficial uses of the groundwater.

### **Monitoring Requirements**

Water Code section 13267 authorizes the Regional Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. In recent years there has been increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Water Code section 13268 authorizes assessment of civil administrative liability where appropriate.

This Order requires influent and effluent monitoring requirements, including flow rates. In order to adequately characterize its effluent, the Discharger is required to monitor for VOCs and pH.

The Discharger need not conduct groundwater monitoring under this Order. Groundwater monitoring is already being performed pursuant to the Imminent and Substantial Endangerment Order and with oversight provided by the Regional Board and Department of Toxic Substances Control staff. Effects of the discharge on groundwater need not be monitored under this Order as the application of the effluent as allowed effectively precludes recharge of the groundwater by the effluent.

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